DOCUMENT RESUME

ED 295 681 IR 052 389

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TITLE Library Staff Training for LUIS (Online Catalog) Keyword/Boolean Searching at Indiana State University Libraries.
INSTITUTION Indiana State Univ., Terre Haute. Library.
PUB DATE Apr 88
NOTE 20p.
PUB TYPE Reports - Descriptive (141) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS College Libraries; Course Evaluation; Higher Education; *Inservice Education; Instructional Materials; *Library Personnel; *Library Skills; *Online Catalogs; Online Searching; *Search Strategies
IDENTIFIERS *Boolean Search Strategy; *Indiana State University

ABSTRACT

This document provides a description of library staff training for keyword/Boolean searching on the library's online catalog, LUIS (Library User Information System), at Indiana State University. A narrative overview describes the circumstances, conditions, and organization of training sessions. Also included are a content outline of the instructional sessions, a general handout on keyword/Boolean searching, a keyword/Boolean practice exercise, and the session evaluation instrument administered to participants following instruction. Results of the staff session evaluations are summarized. (Author/EW)

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# Library Staff Training for LUIS (Online Catalog) Keyword/Boolean Searching at Indiana State University Libraries

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*April, 1988*

IR052389



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LIBRARY STAFF TRAINING

FOR LUIS (ONLINE CATALOG) KEYWORD/BOOLEAN SEARCHING

AT INDIANA STATE UNIVERSITY LIBRARIES

PROPOSED DOCUMENT RESUME

This document provides a description of library staff training for keyword/Boolean searching on the library's online catalog (LUIS) at Indiana State University. A narrative overview describes the circumstances, conditions, and organization of training sessions. Also included are: a content outline of the instructional sessions; a general handout on keyword/Boolean searching; a keyword/Boolean practice exercise; and the session evaluation instrument administered to participants following instruction. Results of the staff session evaluations are summarized.

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# LIBRARY STAFF TRAINING FOR LUIS (ONLINE CATALOG) KEYWORD/BOOLEAN SEARCHING AT INDIANA STATE UNIVERSITY LIBRARIES

## Introduction

Indiana State University (ISU) Libraries implemented the NOTIS integrated library system in March 1985. ISU's online public access catalog component of the system is called LUIS (Library User Information System). Initially online catalog access was limited to author, title, and subject searching. Library staff training for this initial implementation took the form of small group sessions (5 to 10 staff members) with multiple practice terminals available in the library instruction classroom for staff to get hands-on experience as part of their training. The instruction librarians and other library staff members served as instructors of these sessions. If time is any test, this training approach was successful.

Keyword/Boolean search software was installed in mid-March 1988. No significant publicity preceded the actual installation of keyword/Boolean searching since the library wanted to first determine keyword/Boolean's effect on the existing system's configuration. In addition, prior to "going public" with this new form of access, library staff (both support staff and, to a lesser extent, professional staff) had to be trained in the particulars of LUIS keyword/Boolean search logic and techniques.

As expected, the initial installation of keyword/Boolean put a noticeable "drain" on the system-- keyword/Boolean search response times were significantly longer than those for LUIS author, title, and subject searches. Following several technical

adjustments which improved response time, the decision was made to go public with LUIS keyword/Boolean searching to library users, announcing the new capability as a "preview" of what it would ultimately become. Keyword/Boolean would premiere as a "preview" since further improvements and modifications of the library's computing system were scheduled throughout the summer and were expected to further improve the efficiency of keyword/Boolean searching. A date was set to announce publicly the availability of LUIS keyword/Boolean searching. The Department of Library Instruction and Orientation (LI&O) had approximately two weeks to plan, develop materials, and accomplish library staff LUIS keyword/Boolean search training.

Primary Goals

The instruction librarians developed the following primary goals for library staff training on keyword/Boolean searching (non-prioritized listing):

GOAL: to introduce all library staff to the major concepts specific to LUIS keyword/Boolean searching (see Content Outline in the Instructional Materials section of this document);

GOAL: to emphasize to library staff that keyword/Boolean searching was being added to the system to supplement/complement (not replace or supercede) existing author, title, and subject searching; author, title, and subject searching will continue to be the preferred method of searching in many (if not most) instances;

GOAL: to inform staff of how and where to get continued assistance with keyword/Boolean searching, not only for themselves, but for library patrons needing help; and

GOAL: to illustrate that there are varied styles of keyword/Boolean searching; there is not one "right" way to conduct a specific query, but many ways; styles of searching are dependent upon what the individual

searcher best understands and feels comfortable with.

Description of Sessions

Initially, training was set up as two different sessions, each to be offered several times to keep group sizes manageable and to accommodate individual schedules. The first session would be for relatively large staff groups (15 to 25) wherein background information on keyword/Boolean concepts would be presented in an informal lecture. The lecture would be supported by print handouts and practical demonstrations of major concepts.

The second session (to follow the first session 2 or 3 days later) would be for much smaller groups (5 to 7) wherein staff would work in pairs on temporarily-installed LUIS terminals and get hands on experience and practice with keyword/Boolean searching. During these second sessions the instructors would "float" to troubleshoot problems and discuss results of practice searches. Following the example set by two other institutions' libraries which had already implemented keyword/Boolean searching, no training distinction would be made between professional staff and support staff, nor would there be any distinctions made between public services staff and technical services staff. Futher, library student assistants would not be included in these sessions, but would receive basic keyword/ Boolean instruction in the new student assistant orientations held each semester.

As planning proceeded, the "ideal" training situation just described had to be modified. The instruction librarians discovered that due to technical matters and a shortage of time, temporary LUIS terminals to support the small hands-on sessions

would not be possible. The first session was offered as planned, while the hands-on practice training component was something staff would have to do on their own.

Training sessions were scheduled at seven different times across a 3-day period. Sessions times were announced via memo to all library staff. Library staff selected the training time best suited to their schedule and called LI&O for a reservation. LI&O maintained a sign-up sheet to monitor the group size for each session. If none of the scheduled times were possible for a staff member, LI&O scheduled an individualized session at a time which was mutually convenient.

All sessions were held in LI&O's instructional classroom in the Library, a traditional classroom which comfortably accommodates 30 people. The classroom is equipped with an IBM-pc which is hardwired to the library's integrated system. The pc is connectd to a Kodak DataShow (an LCD projection pad) which allows for large screen projection of "live" online searches. Group size for each session averaged nine. Training sessions lasted approximately 60 minutes each.

There were two instructors for each session. One of the instructors served as lecturer while the other demonstrated examples of various concepts using the LCD projection device. The instructors tried to establish an informal atmosphere in each session to encourage discussion and questions.

## Session Evaluation Results

At the end of each training session a brief evaluation instrument was distributed to everyone in the group (see the

Instructional Materials section of this document for an example). The anonymous evaluation was designed to gather general information about how the training session might be improved. To ensure that everyone completed an evaluation, time was allowed at the end of each session for staff to respond to the evaluation. Evaluations were collected before the group disbanded. Prior to the next training session the instructors reviewed each evaluation paying particular attention to any recurring comments or suggestions.

The results of the evaluation are summarized below (numbers correspond to evaluation item numbers):

1. All sixty-four staff responding to this item either "strongly agreed" or "agreed" that "handouts were helpful in further explaining the information presented."

2. All sixty-four staff responding to this item either "strongly agreed" or "agreed" that "search examples... integrated into the instructional session were relevant." Therefore, no problematic examples were cited in the second part of this evaluation item.

3. Of fifty-seven staff members responding to this item, fifteen (26 percent) "strongly agreed" that they "felt confident in using keyword/Boolean techniques" as a result of instruction. Thirty staff (53 percent) "agreed" on this item regarding their confidence level, while twelve (21 percent) "disagreed" that they felt more confident about keyword/Boolean following instruction.

4. All sixty-three staff responding to this item either "strongly agreed" or "agreed" that the "session was a worthwhile use of [their] time."

5. A review of the forty-eight comments which were made on this item indicated that the most positive aspects of the orientation were:

   -the handouts,
   -the informal, relaxed presentation style, and
   -the use of visual examples to illustrate the more complex concepts, e.g. nesting and field limiting.

6. A review of the thirty-eight comments made on this item identified the following least positive aspects of the sessions:

   -too much information to cover in such a short time; should have had two sessions; too hurried;
   -no hands-on experience during the session, and
   -needed more examples of certain concepts, such as nesting.

7. Twenty-four general comments were received. A majority of these indicated appreciation for the training and included general compliments to the instructors for their efforts.

Instructional Materials Used

Shown below is a list of instructional support materials used during the staff training sessions. Each listing includes a brief statement regarding the specific use of each item and other general comments. Examples of each follow this annotated list.

"Content Outline for Staff Training on LUIS Keyword Boolean Searching"-- distributed at opening of each session and briefly reviewed by instructors to let staff know the order of presentation during the session; served as a reference point for staff and helped instructors stay organized during each presentation.

"General Handout on Keyword/Boolean Searching"-- distributed early in session; referred to throughout session; represented the only print documentation available for keyword/Boolean searching at the time of the training sessions; provided staff with introductory information on keyword/Boolean that they could refer to and review after the session; eliminated need to take extensive notes. [NOTE: ISU's Department of Library Instruction and Orientation gratefully acknowledges examples shared by the University of Notre Dame Library's Instruction Office in the development of this handout.]

"LUIS Keyword Exercise"-- offered at the end of each session to provide staff with practice examples; specific emphasis was given to the fact that this exercise was optional (since some staff were very apprehensive and nervous about their initial keyword/Boolean search abilities, the instructors wanted to avoid a "testing" situation); almost all staff took a copy of the exercise.

"Staff Evaluation of Keyword/Boolean Training"-- developed to gauge staff reaction to training sessions; several

suggestions made in earliest session evaluations resulted in slight modifications in emphasis on certain concepts and examples in subsequent sessions; evaluation was administered and collected at end of each session and reviewed before the next scheduled session.

**CONTENT OUTLINE FOR**

**STAFF TRAINING ON LUIS KEYWORD/BOOLEAN SEARCHING**

**Indiana State University Libraries, April 1988**

**I. General Information**

A. Definitions

1. Keyword Searching

2. Boolean Searching

B. Getting Started

1. Topic Analysis

2. Entering Keyword Searches

C. Getting Help

1. Help Screens

2. Reference Desk/LI&O

**II. Keyword/Boolean Searching**

A. Broad Keyword Searching

B. Boolean Operators

1. Logical Operators: *And, Or*, and *Not*

2. CML's Default Operator: *And*

3. Stopwords

4. Positional Operators: adjacent (*adj*) and *same*

**III. Revising and Refining Searches**

A. Truncation: **$**

B. Field Limiting: *.au., .ti., .su.* (and others)

C. Nesting

**IV. Questions and Answers/Discussion**

General Handout on

## KEYWORD/BOOLEAN SEARCHING (k=)

Keyword searching allows you to search for the appearance of any term, anywhere in a bibliographic record. By using Boolean operators (discussed below) you may search for more than one term at a time, specify logical relationships between terms, and define their proximity to one another. The limits of traditional searching are removed. In the past, to locate a title you had to know its first word. In keyword/Boolean searching you may search for any word appearing in a title. For example, you can find *The Witches of Eastwick* by searching for "*Eastwick*."

To search for keywords, type the command k= followed by the word(s), then press the RETURN key.

| | | |
|---|---|---|
| **Command Sequence:** | 1st type the command | k= |
| | 2nd type the keyword(s) | eastwick |
| | 3rd press the RETURN key | RETURN |

**Note about entering searches:** Short keyword searches (up to 48 characters) may be entered on any LUIS screen. However, long keyword searches (up to 203 characters) *must* be entered on the first keyword help screen (type k and press RETURN to get to this screen).

**Note about maximum search results:** Currently, keyword/Boolean searches are limited to a maximum of 250 records, listed in descending chronological order.

### BOOLEAN OPERATORS

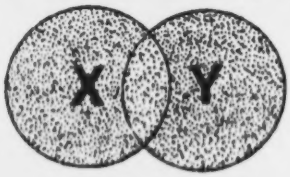
#### Logical Operators

Boolean logical operators (or connectors) allow you to retrieve records which contain your search terms and then logically combine those records in a variety of ways. The three Boolean logical operators are:

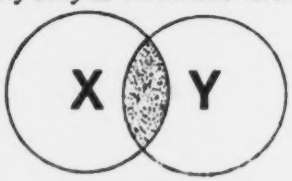
**AND** Each record must contain all search terms (**AND** *narrows a search*);

**OR** Each record must contain at least one search term (**OR** *broadens a search*); and

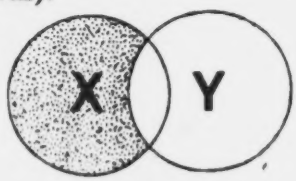
**NOT** Each record must not contain any search terms following the operator **NOT** (*While NOT narrows a search by eliminating selected records, frequent use of the NOT operator is discouraged. If your search isn't clearly defined it is very easy to eliminate relevant records).*



OR



AND



NOT

*Logical Operators, continued*

**Examples of Logical Operators:**

| | |
|---|---|
| k = apples and oranges RETURN | Each record will contain *both* terms |
| k = apples or oranges RETURN | Each record will contain *one or both* terms |
| k = apples not oranges RETURN | Each record will contain *apples but not oranges.* |

**Stopwords:** There are approximately 50 "short" words ( a, all, at, some, this, etc.) which cannot be used as search terms. Check the LUIS keyword help screens for a complete list.

**Positional Operators**

Boolean positional operators (or connectors) allow you to retrieve only those records in which your search terms appear in a predetermined proximity (order) to each other. The two Boolean positional operators are:

**Adj** Search terms must be *adjacent* (side by side), in the same order, and

**Same** Search terms must be *in the same bibliographic record field*, but may be in any order.

**Examples of Positional Operators:**

| | |
|---|---|
| k = apple adj pie RETURN | Would retrieve *Baking the Classic Apple Pie* |
| k = apple same pie RETURN | Would retrieve *America's Favorite Pie, Cherry or Apple.* |

**TRUNCATION**

**$** Retrieves all terms beginning with the characters typed before the $ sign.

**$ [ ]** Retrieves only terms beginning with the characters typed plus up to the number of additional characters specified (where [ ] = the number).

**Examples of truncation are:**

| | |
|---|---|
| k = colo$ RETURN | Retrieves color, colors, colours, Colorado, colony, colossal, etc. |
| k = colo$2 RETURN | Retrieves color, colors, colour, colon, etc. |

**FIELD LIMITING**

Field qualifiers may be added to the end of search terms limiting them to specific fields. If field limiting is not used, the system searches all parts of the bibliographic record for your term(s). The following field limiters are "advertised" to the public:

*-continued on next page-*

*Field Limiting, continued*

The following field limiters are "advertised" to the public: (Note that all *begin and end* with a period)

| | | |
|---|---|---|
| **Author** field | **.au.** | (example: k = steinbeck*.au.*) |
| **Title** field | **.ti.** | (example: k = grapes*.ti.*) |
| **Subject** field | **.su.** | (example: k = hypertension*.su.*) |

Many other bibliographic record fields are also indexed in keyword/Boolean. Examples include:

| | |
|---|---|
| **fixed language code** | **.fxdlangcode.** |
| **imprint** | **.imprint.** |
| **contentsnotes** | **.contentsnotes.** |

A more comprehensive list of "unpublicized" field limiters will be developed and distributed at a later date.

## NESTING

By using parentheses you may determine the order in which operations take place (those inside parentheses are performed first). More complicated strategies then become possible. Example:

k = pancrea$.ti,su. and (cancer$ or carcino$ or tumor$ or tumour$).ti,su. RETURN

Explanation of above example: the preceding search would pick up records which included the terms pancreas or pancreatic in the *title* or *subject field;* and cancer, cancers, carcino*ma,* carcino*mas,* carcino*gen*, carcino*gens*, tumor, tumors, tumour, or tumours in the *title* or *subject field.* The "nested" search elements (cancer$ or carcino$, etc.) are performed first.

## Miscellaneous Notes:

*This handout was developed by the Department of Library Instruction and Orientation, Indiana State University Libraries, Terre Haute, Indiana -- April, 1988.*

## LUIS KEYWORD EXERCISES

Work through the exercises given below. Some just require you to input various requests and examine/analyze the result; for some you will first need to analyze the request, formulate your search statement, then, if you wish you can try entering it and see what you get. Try to use all the possibilities available to you through keyword searching: use AND, OR, NOT, ADJ, SAME, TRUNCATION, NESTING, FIELD LIMITING as well as just entering terms unlimited in any way. Work in pencil so you can revise your search if necessary. Remember, there is not always just one best way to design a search statement.

WARMING UP: SOME ACTUAL SEARCHING

1. Query: What's been written about how people feel about computers?

   Type k=people and computers

   Type k=people same computers

Why wouldn't you want to type k=people or computers?

2. Query: What do you have on pollution control devices for cars?

   Type k=pollution and automobiles

   Type k=pollution and automobile$

3. Query: I need to find materials on how children handle the stress of coming through a divorce.

   Type k=children and stress

   Type k=children and divorce

   Type k=children and (stress or divorce)

Should the result for the third search equal the total of the first 2 searches?

4. I need some examples of speeches, probably just from American speakers.

   Type k=American speeches

   Type k=(united adj states) and speeches

5. I need to see what you have on jazz, particularly jazz piano.

   Type k=jazz piano

Type k=jazz same piano

6. Type k=aids not (disease or teaching)

What type of "aids" have you retrieved? Write down the titles of the first 3 entries.

_____

_____

_____

7. Below are 3 possible searches for the query: I need to do a paper on our Star Wars defense system. Try each of them. Of the three searches, which seems to give the best results?

a. Type k=star wars Number of entries: _____

b. Type k=star war$ Number of entries: _____

c. Type k=star wars.ti. Number of entries: _____

PRACTICE IN DESIGNING YOUR SEARCH

For each of the following, compose a keyword search statement that may retrieve the desired records. Each question will demonstrate the use of one of the operators or other features of keyword searching. You can use any other operators or limiters you wish in addition to the one specified when you are designing your search statements. [Optional: input your search and look at the results. Do you understand why you got what you got? If not, try revising your search and try again, or discuss the results with one of the instruction librarians. A key of some possible keyword searches is available in the Library Instruction & Orientation office.]

8. Compose a keyword search, using "or" for the following statement: **Books on both fishing and hunting**

k=_____

9. Compose a keyword search for the following statement using the "adj" operator: **Materials on President Dwight Eisenhower**

k=_____

10. Compose a keyword search for the following statement using the "and" operator: **Vietnam veterans**

k=_____

11. Compose a keyword search for the following statement using the "same" operator: **Careers in police work**

k=_____

12. Compose a keyword search for the following statement using the "not" operator: **Books on bulimia but not if they also deal with anorexia**

k=_____

13. Use **truncation** to get a list of materials on: **Beginners guides/tips/basics of golf**

k=_____

14. Compose 2 keyword searches for the following statement that looks for items only in the **title field**: **National security**

k=_____

k=_____

15. Compose a keyword search, using **truncation** and the field **limiters for subject and title**: **Sports medicine**

k=_____

16. Compose a keyword search, using **nesting**, and any operators you choose, for the following statements:

(a) **The speech/language of toddlers/infants; how they learn to talk**

k=_____

(b) **Cancer/carcinoma of the pancreas; maybe tumors/tumours**

k=_____

# Staff Evaluation of Keyword/Boolean Training

This evaluation instrument has been designed to solicit your input on the training session attended. Results of this evaluation will be used in making decisions about orienting patrons and other library staff to LUIS keyword/Boolean searching. THERE IS NO NEED TO SIGN THIS EVALUATION.

Please check all that apply:

_____Faculty ____Public Services Department

_____Staff ____Technical Services Dept.

For the items below, please *circle* your response.

SA = Strongly Agree A = Agree D = Disagree SD = Strongly Disagree

1. The handouts were helpful in further explaining the information presented during the orientation.

SA A D SD

2. Search examples/explanations integrated into the instructional session were relevant.

SA A D SD

If you disagreed, please help us by identifying which examples gave you problems.

3. Following this training, I feel confident in using keyword/Boolean techniques.

SA A D SD

4. The session was a worthwhile use of my time.

SA A D SD

5. What was the *most positive* aspect of the orientation? (Briefly comment)

*--continued--*

**Staff Evaluation (continued)**

6. What was the *least positive* aspect of the orientation? (Briefly comment)

7. Other comments (areas not covered that should have been, etc.).